

WHAT IS CLAIMED:

1. A flow-through device for removing selected compounds from a liquid, said device comprising:

    a housing having a first portion and a second portion joined together;

    each of said first and second portions comprising an outer surface and an inner surface;

    a compound removing medium disposed between said inner surfaces of said portions;

    one of said first and second portions comprising an inlet port and the other of said first and second portions comprising an outlet port;

    said inner surface of one of said first and second portions including a continuous tongue at or near the periphery of said portion;

    said inner surface of said other of said first and second portions comprising a continuous groove at or near the periphery of said other portion for receiving said tongue.

2. Apparatus of Claim 1 wherein said inner surface of at least one of said first and second portions includes a raised gripping member disposed peripherally inwardly of said tongue or groove.

3. Apparatus of Claim 2 wherein each of said first and second portions includes a raised gripping surface disposed peripherally inwardly of said tongue and groove.

4. Apparatus of Claim 2 wherein said compound removing medium is partially compressed by said gripping member.

5. Apparatus of Claim 4 wherein said gripping member includes a

pointed tip.

6. Apparatus of Claim 1 further comprising a filter medium disposed between said first and second portions.

7. Apparatus of Claim 6 wherein said filter medium is disposed between said compound removing medium and said housing portion including said outlet port.

8. Apparatus of Claim 7 wherein said inner surface of said outlet housing portion comprises a substantially continuous nesting surface for supporting said filter.

9. Apparatus of Claim 1 wherein said housing is made of a material that is suitable for sonic welding.

10. Apparatus of Claim 9 wherein said housing is made of polymethyl methacrylate.

11. Apparatus of Claim 8 wherein the peripheral portion of said filter medium is adhered to said surface.

12. Apparatus of Claim 11 wherein said filter medium is adhered to said surface by sonic welding.

13. Apparatus of Claim 1 wherein at least one of said housing portions comprises a plurality of inwardly extending ribs on the inner surface thereof.

14. Apparatus of Claim 13 comprising a center, wherein said ribs extend radially from a point adjacent to said center point to a point adjacent to the peripheral edge of said housing.

15. Apparatus of Claim 1 wherein at least one of said housing portions includes a rib on the inner surface thereof.

16. Apparatus of Claim 15 comprising a pair of raised ribs on said inner surface of said first or second portions and said

outlet or inlet port is disposed between said ribs.

17. Apparatus of Claim 1 wherein the end of said tongue is rounded.

18. Apparatus of Claim 1 wherein said tongue includes an outwardly extending portion and said groove comprises an inwardly extending shoulder.

19. Flow-through device for removing selected compounds from a liquid comprising a housing;

    said housing comprising first and second side walls and an interior chamber between said walls;

    a compound removing medium disposed within said interior chamber;

    an inlet port on one of said side walls and an outlet port on the other of said walls located diametrically opposite to said inlet port.

20. Device of Claim 19 comprising a fluid source end and a fluid receiving end, wherein said outlet port is located nearer said fluid source end than said inlet.

21. Device of Claim 19 further comprising a filter disposed within said interior chamber.

22. Device of Claim 19 wherein said compound removing device comprises particulate of a sorbent composition and a plastic binder.

23. Device of Claim 22 wherein said sorbent particulate comprises beads of divinyl benzene polystyrene and said binder comprises polyethylene.

24. A flow-through fluid processing system for removing selected

compounds from a fluid comprising:

    a source container including a fluid outlet;

    a receiving container including a fluid inlet;

    a compound removal device disposed between said source and receiving containers, said device comprising a housing having an interior chamber and a compound removing medium within said chamber, said housing including a fluid inlet on one side of said housing and nearer to said receiving container than to said source container and a fluid outlet on said housing and nearer to said receiving container than to said source container;

    a first tube providing a flow path between said source container outlet and said device inlet;

    a second tube providing a flow path between said device outlet and said receiving container inlet.

25. System of Claim 24 wherein said inlet includes an opening that faces away from said source container.

26. System of Claim 24 wherein said device outlet includes an opening that faces away from said receiving container.

27. System of Claim 24 further comprising a retaining member adapted to receive said first tube.

28. System of Claim 25 further comprising a retaining member adapted to receive said second tube.

29. System of Claim 25 wherein said retaining member comprises a loop integral with said housing and substantially vertically aligned with said device inlet.

30. System of Claim 24 wherein the flow of liquid through said device is in a direction 180° inverted relative to the flow-

through said first tube.

31. System of Claim 25 wherein said flow path from said source container to said device inlet port, comprises an approximately 180° turn.

32. System of Claim 30 wherein said device comprises a connector having at least two openings wherein one of said openings is in flow communication with said inlet port of said device and the other of said openings is in flow communication with said first tube.

33. System of Claim 32 wherein said device comprises a connector having two openings wherein one of said openings is in flow communication with said outlet port of said device and the other of said openings is in flow communication with said second tube.

34. System of Claim 32 wherein said connector comprises one end that includes a bifurcated conduit wherein one branch of said conduit includes one of said openings and said other branch includes the other of said openings.

35. System of Claim 34 wherein said connector comprises a second end with a port and a tube between said port and said receiving container.

36. The system of Claim 35 wherein flow through said tube between said connector second end and said receiving container is restricted.

37. System of Claim 32 wherein said connector comprises a U-shaped fluid flow conduit.

38. System of Claim 24 comprising an upstream connector having an inlet in direct flow communication with said source container,

and a plurality of outlets;

a downstream connector including an outlet and a plurality of inlets,

wherein said first tube provides a flow path between one of said upstream connector outlets and said device inlet; and

said second tube provides a flow path between said device outlet and one of said downstream connector inlets.

39. System of Claim 38 further comprising a tube defining a flow path, one end of which is connected to one of said upstream connector outlets and the other end connected to a downstream connector inlet, said tube including a valve in said flow path for selectively restricting flow therethrough.

40. System of Claim 38 wherein said device inlet comprises a port facing away from said receiving container, said system further comprising a tube, one end of which is attached to said port facing said receiving container and other end of which is connected to one of said inlet ports of said downstream connector.

41. System of Claim 39 wherein said tube comprises a permanently sealed flow path.

42. System of Claim 38 comprising:

a tube defining a flow path between one of said upstream connector outlets and said device inlet;

a tube defining a flow path between one of said upstream connector outlets and one of said downstream connector inlets;

a tube between one of said upstream connector outlets and said device outlet connector.

43. System of Claim 42 wherein said upstream connector comprises a fluid conduit comprising an inlet and a trifurcated outlet.

44. System of Claim 24 comprising a holder for supporting said removal device.

45. System of Claim 38 wherein said holder comprises a sleeve for receiving the housing of said device.

46. System of Claim 44 wherein said holder comprises two separate parts joined together to provide said sleeve.

47. System of Claim 44 wherein said holder is attached to a pole support.

48. System of Claim 19 wherein said housing inlet and said outlet are spaced 90° from the central vertical axis of said housing.

49. A flow-through device for removing selected compounds from a liquid comprising:

    a housing comprising a pair of side walls and a peripheral end wall defining a chamber,

    a removal medium located within said chamber between said walls, said medium including a peripheral end surface terminating interior to said peripheral end wall of said housing;

    a liquid impermeable barrier in the area of said chamber that is substantially between said medium peripheral end surface and said peripheral end wall of said housing.

50. The flow through device of Claim 49 wherein at least one of said inner housing surfaces includes a gripping member extending from said surface into said chamber and gripping said removal medium, said member being integrally spaced from said peripheral

end wall of said housing.

51. The flow-through device of Claim 50 wherein said housing comprises a gripping member extending from the inner surface of one of said pair of walls and a gripping member extending from the inner surface of the other pair of walls.

52. The flow-through device of Claim 50 wherein said member terminates in a substantially pointed tip.

53. The flow-through device of Claim 49 wherein said housing comprises an injection port for introducing a sealant into said chamber.

54. The flow-through device of Claim 53 wherein said housing comprises a reservoir for receiving said sealant.

55. The flow-through device of Claim 53 wherein said sealant is selected from the group consisting of epoxies, RTV sealants, hot melts, polyurethane, silicones, waxes and plastics.

56. The flow through device of Claim 49 wherein said barrier comprises a ring of binding material molded to said removal media.

57. The flow through device of Claim 49 wherein said barrier comprises a gasket around the end wall of said removal media.

58. The flow through device of Claim 57 wherein said gasket is bonded to at least one of said side walls.

59. The flow through device of Claim 49 wherein said barrier comprises a skin formed on the end of said removal media.

60. A flow-through fluid processing system for removing selected compounds or components from a fluid comprising:

a source container including a fluid outlet;

a receiving container including a fluid inlet;  
a compound removal device between said source container and receiving container, said device comprising a housing having first and second outer walls and a compound removing medium between said walls, said housing including a fluid inlet located between the center of said device and said receiving container and a fluid outlet located between said center and said source container;

tubing providing a flow path between said source container outlet and said housing inlet;

tubing providing a flow path between said housing outlet and said receiving container inlet;

wherein the length of said flow path between said source container and said inlet is greater than the length of said flow path between said device outlet and said receiving container.

61. The flow-through fluid processing system of Claim 60 wherein at least a portion of said tubing between said source container and said device inlet has an internal diameter that is smaller than the internal diameter of said tubing between said device outlet and said receiving container.

62. The flow-through fluid processing system of Claim 61 wherein said tubing providing said flow path between said device outlet and said receiving container has an internal diameter of  $0.08 \pm 0.003$  inches.

63. The flow-through fluid processing system of Claim 60 comprising a first connector in said flow path between said source container and said device inlet and said tubing defining

said flow path between said source container and said device inlet comprises:

    a first tubing segment with a first end joined to said source container and said second end joined to said connector;

    a second tubing segment with a first end joined to said connector and said second end joined to said device inlet;

    said system further comprising a second connector in said flow path between said device outlet and said receiving container and a bypass tube having one end joined to said first connector and a second end joined to said second connector.

64. The flow-through fluid processing system of Claim 63 wherein the internal diameter of said second tubing segment is smaller than the internal diameter of said bypass tube and said internal diameter of said first tubing segment is smaller than the internal diameter of said second tubing segment.